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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 10/775,080
Filing Date: February 11, 2004
Appellant(s): SAKIYAMA ET AL.

_____
Shawn B. Cage
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 04/23/2009 appealing from the Office action

mailed 07/10/2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US Publication 2003/0035142	Kisaki	02-2003
US Patent 5,309,251	Terajima	05-1994
US Patent 6,999,186	Utsunomiya	02-2006

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

1.   Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Utsunomiya (US Patent 6,999,186) in view of Kisaki (US Pub.: 2003/0035142), and

further in view of Terajima (US Patent 5,309,251).

2.   As per claim 1, Utsunomiya teaches a data outputting printer, comprising:

a processing memory (Fig. 2, ref. 1037 and Fig. 3, ref. 1037, 3008, 3009) that

processes (i.e. processes by converting input job image data to raster images) input job

image data for a job (col. 5, ll. 40-67);

an output unit (printer 1030 of Fig. 3) that, after processing of the input job image

data sent to said processing memory, outputs (e.g. prints) said processed input job

image data during a first output session (col. 8, ll. 28-40), wherein the first output

session is resulted from either the implementing the multiple-copy print or the single-

copy print as the first copy is printed on the printer;

a mounting unit for mounting an expansion memory (external memory 1043 of Fig. 2-3) used for image data storage (Fig. 3, ref. 1043, 3011, 3013), wherein the hard drive is mounted as external memory for storing print data (col. 5, ll. 5-16); and

a controller (printer controller 1031 and memory controller 1044 of Fig. 2) that, controls said input job image data is to be output multiple times (e.g. multiple-copy print) (col. 5, ll. 5-32; col. 6, ll. 20-44 and col. 8, ll. 28-40),

stores the input job image data in a storage destination memory (e.g. either the internal memory RAM 1037 or the external hard disk 1043 of Fig. 2-3) for a second output session and beyond (col. 5, l. 40 to col. 6, l. 44), wherein the input job image data is stored in either the internal memory RAM or the external hard disk for printing the first copy, the second copy and beyond, and

wherein the storage destination memory comprises a first storage destination memory (Fig. 3, ref. 3012) storing the processed input job image data (Fig. 3, ref. 3013) and a second storage destination memory (Fig. 3, ref. 1032) storing the input job image data that is not processed (Fig. 3, ref. 3007).

Utsunomiya does not teach the data outputting printer, comprising:

a detection unit that detects whether or not the expansion memory is mounted to said mounting unit; and the controller that,

selects, one of the first storage and second storage destination memories for storing the image data of the second output session and beyond based on the detection of said detection unit … reads out said image data from the selected

storage destination memory and executes printing for the second copy onward

via said output unit.

Kizaki teaches an image forming apparatus such as a digital copier, a facsimile

machine, a printer, and a scanner ([0002]) comprising a data input/output control unit

(Fig. 6, ref. 600) implementing multiple copies as a first copy is stored in and output

from a primary memory device (semiconductor memory) (Fig. 6, ref. 606) and a second

and following copies are stored in and output from the secondary memory device (hard

disk drive: HDD) (Fig. 6, ref. 607) ([0117]-[0118]);

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Kizaki's printing of the first copy from the primary

memory device and the second and following copy from the secondary memory device

into Utsunomiya's printer for the benefit of providing efficient transfer of image data

concerning the primary memory device while using the second memory device having a

larger volume as image memory (Kizaki, [0014]) to obtain the invention as specified in

claim 1. The resulting combination of the references further teaches the data outputting

printer, comprising:

the controller that,

prints out the first copy from the primary memory device (e.g. the second

storage destination memory) as the input job image data is stored in the primary

memory device and is outputted via the output unit; and

prints out the second and following copies from the secondary memory

device (e.g. first storage destination memory) as the input job image data is to be

stored in the secondary memory device for the second and following copies and

is outputted via the output unit.

Terajima teaches a facsimile apparatus with a printing function comprising:

a sensor (Fig. 1, ref. 119) utilized for detecting whether or not a external memory

(Fig. 1, ref. 109) is coupled to the control unit (Fig. 1 and col. 3, l. 11 to col. 4, l. 14);

and

a controller (Fig. 1, ref. 101) that selects the storing of the received

communication data in an internal RAM processing memory (Fig. 1, ref. 115) if the

sensor does not detect the presence of the external memory (col. 4, ll. 14-20) and if the

external memory is detected to be present, the received communication data is to be

stored in the external memory (col. 3, l. 62 to col. 4, l. 4), and prints the received

communication data from either the internal RAM processing memory or the external

memory, depending where it was stored earlier (col. 4, ll. 47-64).

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Terajima's sensor into Utsunomiya and Kizaki's printer

for the benefit of ensuring that the external memory is properly connected before data

transferring increasing the data transferring integrity (Terajima, col. 5, ll. 3-9), and

further more, also provide the benefit of reducing the cost of the printer as memory is

saved (Terajima, col. 1, l. 52 to col. 2, l. 5) to obtain the invention as specified in claim 1.

The resulting combination of the references further teaches data outputting printer,

comprising:

the sensor (i.e. detection unit) utilized for detecting whether or not the external

memory (i.e. expansion memory) has been mounted to said mounting unit; and

the controller selecting to store image data in either the primary memory device

or the secondary memory device for the second output session and beyond based on

the sensor's detection, such that,

if the sensor detects that the external memory is mounted, prints out the

first copy from the primary memory device (e.g. second storage destination

memory) as the image data is stored in the primary memory device, and stores

the image data in the primary memory device into the secondary memory device

(e.g. first storage destination memory) for implementing the print out of the

second and following copies from the secondary memory device; and

if the sensor detects that the external memory is not mounted, stores the

input job image into the primary memory (e.g. second storage destination

memory) and prints out the second and following copies utilizing the image data

stored in the primary memory (e.g. second storage destination memory); and

therefore, printing (e.g. reads out) the input job image data from the

selected storage destination memory and executes printing for the second copy

onward via the printer unit.

3.   As per claim 2, <u>Utsunomiya</u>, <u>Kizaki</u> and <u>Terajima</u> teach all the limitations of claim

1 as discussed above, where <u>Terajima</u> further teaches the data outputting printer

comprising wherein when said detection unit detects that the expansion memory is

mounted, said controller stores the processed input job image data used for said

second output session onward in said expansion memory (i.e. external memory), and

when said detection unit detects that the expansion memory is not mounted, said

controller stores the input job image data used for said second output session onward in

said processing memory (i.e. internal RAM) (<u>Terajima</u>, Fig. 3 and col. 3, l. 11 to col. 4, l.

14), wherein the input job image data is stored into the external memory only if the

sensor detects the presence of the external memory, if the external memory is not

present, the input job image data is stored in the internal RAM.

4.   As per claim 3, <u>Utsunomiya</u>, <u>Kizaki</u> and <u>Terajima</u> teach all the limitations of claim

2 as discussed above, where <u>Utsunomiya</u> and <u>Terajima</u> further teach the data

outputting printer comprising wherein if it is detected by said detection unit that the

expansion memory is mounted, said controller outputs the input job image data

processed in said processing memory as is for the first output session (<u>Utsunomiya</u>, Fig.

2-3 and <u>Terajima</u>, col. 3, l. 11 to col. 4, l. 14), wherein the communication result is first

stored in the RAM (processing memory) then later transferred to the external memory

and prior to printing, if the external memory is removed, the data is printed from the

RAM.

5.   As per claim 4, <u>Utsunomiya</u>, <u>Kizaki</u> and <u>Terajima</u> teach all the limitations of claim 1 as discussed above, where <u>Terajima</u> further teaches the data outputting printer comprising wherein said controller determines the storage format for the input job image data used for the second output session onward in accordance with the results of the detection by said detection unit (<u>Terajima</u>, Fig. 6 and col. 5, ll. 29-50), wherein if data is stored on the external memory, the data would require proper formatting by the serial interface circuit for performing serial communication for data between the control unit and the external memory.

6.   As per claim 5, <u>Utsunomiya</u>, <u>Kizaki</u> and <u>Terajima</u> teach all the limitations of claim 4 as discussed above, where <u>Terajima</u> further teaches the data outputting printer comprising wherein the job is a print job sent from an external device, and when the mounting of an expansion memory is detected by said detection unit, said controller stores the processed input job image data in said expansion memory as image data resulting from processing in said processing memory, and when the mounting of an expansion memory is not detected by the detection unit, said controller stores the input job image data in said processing memory in an original format existing prior to its processing in said processing memory (<u>Terajima</u>, Fig. 6; col. 3, l. 11 to col. 4, l. 14 and col. 5, ll. 29-50), wherein if the external memory is detected, the data is stored in the external memory after being properly processed by being formatted for serial communication and if the external memory is not detected, data is stored in the RAM without implementing the serial formatting.

7.   As per claim 6, <u>Utsunomiya</u>, <u>Kizaki</u> and <u>Terajima</u> teach all the limitations of claim

1 as discussed above, where <u>Utsunomiya</u> further teaches the data outputting printer

comprising at least one compression/decompression unit (i.e. compression/expand unit)

that compresses data and decompresses compressed data (<u>Utsunomiya</u>, col. 2, ll. 8-67

and col. 7, ll. 22-32).

8.   As per claim 7, <u>Utsunomiya</u>, <u>Kizaki</u> and <u>Terajima</u> teach all the limitations of claim

6 as discussed above, where <u>Utsunomiya</u> further teaches the data outputting printer

comprising wherein said expansion memory stores data compressed by said at least

one compression/decompression unit (<u>Utsunomiya</u>, col. 2, ll. 8-67 and col. 7, ll. 22-32),

wherein data are compressed before being stored.

9.   As per claim 8, <u>Utsunomiya</u> teaches a data outputting printer, comprising:

        a receiving unit (input/output module 3000 of Fig. 3) that receives print jobs of

input image data;

        a processing memory (Fig. 2, ref. 1037 and Fig. 3, ref. 1037, 3008, 3009) that

processes (i.e. processes by converting input image data to raster images) the input

image data of print jobs received by said receiving unit (Fig. 3 and col. 5, ll. 40-67);

        a printer unit (printer 1030 of Fig. 3) that prints the input image data after it has

been processed in said processing memory (col. 8, ll. 28-40);

a mounting unit used for mounting an expansion memory (external memory 1043 of Fig. 2-3) used for image data storage (Fig. 3, ref. 1043, 3011, 3013), wherein the hard drive is mounted as external memory for storing print data (col. 5, ll. 5-16); and

a controller (printer controller 1031 and memory controller 1044 of Fig. 2) that control the print job includes multiple copies of identical images to be printed (e.g. multiple-copy print) (col. 5, ll. 5-32; col. 6, ll. 20-44 and col. 8, ll. 28-40),

stores the input image data in a storage destination memory (e.g. either the internal memory RAM 1037 or the external hard disk 1043 of Fig. 2-3) for a second output session and beyond (col. 5, l. 40 to col. 6, l. 44), wherein the input image data is stored in either the internal memory RAM or the external hard disk for printing the first copy, the second copy and beyond,

wherein the storage destination memory comprises a first storage destination memory (Fig. 3, ref. 1032) storing the input image data that is not processed (Fig. 3, ref. 3007) and a second storage destination memory (Fig. 3, ref. 3012) storing the processed input image data (Fig. 3, ref. 3013); and

reads out said image data from the storage destination memory and performs output for the second output session onward using the printer unit (col. 5, l. 40 to col. 6, l. 44), as the stored image data is read out from the corresponding storage destination memory and printed by the printer.

Utsunomiya does not teach the data outputting printer, comprising:

a detection unit that detects whether or not the expansion memory is mounted to said mounting unit; and the controller that,

selects, one of the first storage and second storage destination memories

for storing the image data of the second output session and beyond based on the

detection of said detection unit … reads out said image data from the selected

storage destination memory and executes printing for the second copy onward

via said output (printer) unit.

Kizaki teaches an image forming apparatus such as a digital copier, a facsimile

machine, a printer, and a scanner ([0002]) comprising a data input/output control unit

(Fig. 6, ref. 600) implementing multiple copies as a first copy is stored in and output

from a primary memory device (semiconductor memory) (Fig. 6, ref. 606) and a second

and following copies are stored in and output from the secondary memory device (hard

disk drive: HDD) (Fig. 6, ref. 607) ([0117]-[0118]);

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Kizaki's printing of the first copy from the primary

memory device and the second and following copy from the secondary memory device

into Utsunomiya's printer for the benefit of providing efficient transfer of image data

concerning the primary memory device while using the second memory device having a

larger volume as image memory (Kizaki, [0014]) to obtain the invention as specified in

claims 1 and 8. The resulting combination of the references further teaches the data

outputting printer, comprising:

the controller that,

prints out the first copy from the primary memory device (e.g. the first storage destination memory) as the input image data is stored in the primary memory device and is outputted via the printer unit; and

prints out the second and following copies from the secondary memory device (e.g. secondary storage destination memory) as the image data is to be stored in the secondary memory device for the second and following copies and is outputted via the printer unit.

Terajima teaches a facsimile apparatus with a printing function comprising:

a sensor (Fig. 1, ref. 119) utilized for detecting whether or not a external memory (Fig. 1, ref. 109) is coupled to the control unit (Fig. 1 and col. 3, l. 11 to col. 4, l. 14); and

a controller (Fig. 1, ref. 101) that selects the storing of the received communication data in an internal RAM processing memory (Fig. 1, ref. 115) if the sensor does not detect the presence of the external memory (col. 4, ll. 14-20) and if the external memory is detected to be present, the received communication data is to be stored in the external memory (col. 3, l. 62 to col. 4, l. 4), and prints the received communication data from either the internal RAM processing memory or the external memory, depending where it was stored earlier (col. 4, ll. 47-64).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Terajima's sensor into Utsunomiya and Kizaki's printer for the benefit of ensuring that the external memory is properly connected before data

transferring increasing the data transferring integrity (<u>Terajima</u>, col. 5, ll. 3-9), and further more, also provide the benefit of reducing the cost of the printer as memory is saved (<u>Terajima</u>, col. 1, l. 52 to col. 2, l. 5) to obtain the invention as specified in claims 1 and 8. The resulting combination of the references further teaches data outputting printer, comprising:

the sensor (i.e. detection unit) utilized for detecting whether or not the external memory (i.e. expansion memory) has been mounted to said mounting unit; and

the controller selecting to store image data in either the primary memory device or the secondary memory device for the second output session and beyond based on the sensor's detection, such that,

if the sensor detects that the external memory is mounted, prints out the first copy from the primary memory device (e.g. first storage destination memory) as the image data is stored in the primary memory device, and stores the image data in the primary memory device into the secondary memory device (e.g. second storage destination memory) for implementing the print out of the second and following copies from the secondary memory device; and

if the sensor detects that the external memory is not mounted, stores the input image into the primary memory (e.g. first storage destination memory) and prints out the second and following copies utilizing the image data stored in the primary memory (e.g. first storage destination memory); and

therefore, printing (e.g. reads out) the image data from the selected

storage destination memory and executes printing for the second copy onward

via the printer unit.

10.   As per claim 9, Utsunomiya, Kizaki and Terajima teach all the limitations of claim

8 as discussed above, where Utsunomiya and Terajima further teach the data

outputting printer comprising wherein when said detection unit detects that the

expansion memory is mounted, said controller stores the processed input image data

used for printing of a second copy onward in said expansion memory, and when said

detection unit detects that an expansion memory is not mounted, said controller stores

the input image data that is not processed and used for printing of the second copy

onward in said processing memory (Utsunomiya, Fig. 2-3 and Terajima, Fig. 3 and col.

3, l. 11 to col. 4, l. 14).

11.   As per claim 10, Utsunomiya, Kizaki and Terajima teach all the limitations of

claim 9 as discussed above, where Utsunomiya and Terajima further teach the data

outputting printer comprising wherein if it is detected by said detection unit that the

expansion memory is mounted, said controller prints out the first copy using the image

data processed in said processing memory (Utsunomiya, Fig. 2-3 and Terajima, col. 3, l.

11 to col. 4, l. 14).

12.   As per claim 11, <u>Utsunomiya</u>, <u>Kizaki</u> and <u>Terajima</u> teach all the limitations of

claim 8 as discussed above, where <u>Terajima</u> further teaches the data outputting printer

comprising wherein said controller determines a storage format for image data used for

the second copy onward in accordance with the results of the detection by said

detection unit (<u>Terajima</u>, Fig. 6 and col. 5, ll. 29-50), wherein if data is stored on the

external memory, the data would require proper formatting by the serial interface circuit

for performing serial communication for data between the control unit and the external

memory.

13.   Claims 12-13 repeat the limitations of claims 6-7 and are therefore rejected

accordingly.

14.   As per claims 14, <u>Utsunomiya</u> teaches a printer, comprising:

       a receiving unit (input/output module 3000 of Fig. 3) that receives print jobs;

       a work memory (RAM 1037 of Fig. 3) that includes a storage area (Fig. 3, ref.

1032, 3007) used for storing input image data, as well as a processing area (Fig. 3, ref.

3008, 3009) used for processing (process by converting) image data to raster images

for received print jobs (Fig. 3 and col. 5, ll. 40-67);

       a printer unit (printer 1030 of Fig. 3) that prints image data after it has been

processed in said processing area during (col. 5, l. 40 to col. 6, l. 44);

a mounting unit used for mounting an expansion memory (external memory 1043 of Fig. 2) used for data storage (HD 1043 of Fig. 3), wherein the hard drive is mounted as external memory for storing print data (col. 5, ll. 5-16);

a controller (printer controller 1031 and memory controller 1044 of Fig. 2) that, where the print job is a job in which multiple copies of identical images are to be printed (e.g. multiple-copy print) (col. 5, ll. 17-32; col. 6, ll. 20-44 and col. 8, ll. 28-40), printing out a fist copy, a second copy and onward of the processed image data in said work memory or from an expansion memory; and

a storage destination memory (e.g. either the internal memory RAM 1037 or the external hard disk 1043 of Fig. 2-3) comprises the expansion memory (Fig. 3, ref. 3012) storing the processed image data (Fig. 3, ref. 3013) and the work memory (Fig. 3, ref. 1032) storing the input image data that is not processed (Fig. 3, ref. 3007);

Utsunomiya does not teach the printer, comprising:

a detection unit that detects whether the expansion memory has been mounted to said mounting unit; and the controller that, (i) and when said detection unit detects that the expansion memory is mounted, … and (ii) when said detection unit detects that the expansion memory is not mounted … .

Kizaki teaches an image forming apparatus such as a digital copier, a facsimile machine, a printer, and a scanner ([0002]) comprising a data input/output control unit (Fig. 6, ref. 600) implementing multiple copies as a first copy is stored in and output from a primary memory device (semiconductor memory) (Fig. 6, ref. 606) and a second

and following copies are stored in and output from the secondary memory device (hard

disk drive: HDD) (Fig. 6, ref. 607) ([0117]-[0118]).

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Kizaki's printing of the first copy from the primary

memory device and the second and following copy from the secondary memory device

into Utsunomiya's printer for the benefit of providing efficient transfer of image data

concerning the primary memory device while using the second memory device having a

larger volume as image memory (Kizaki, [0014]) to obtain the invention as specified in

claim 14. The resulting combination of the references further teaches the printer

comprising the controller that

prints out the first copy from the primary memory device (i.e.

semiconductor memory such as the work memory) as the processed image data

is stored in the primary memory device; and

prints out the second and following copies from the secondary memory

device (i.e. external memory such as the HDD) as the processed image data is to

be stored in the secondary memory device for the second and following copies.

Terajima teaches a facsimile apparatus with a printing function comprising:

a sensor (Fig. 1, ref. 119) utilized for detecting whether or not a external memory

(Fig. 1, ref. 109) is coupled to the control unit (Fig. 1 and col. 3, l. 11 to col. 4, l. 14);

and

a controller (Fig. 1, ref. 101) that selects the storing of the received communication data in an internal RAM processing memory (Fig. 1, ref. 115) if the sensor does not detect the presence of the external memory (col. 4, ll. 14-20) and if the external memory is detected to be present, the received communication data is to be stored in the external memory (col. 3, l. 62 to col. 4, l. 4), and prints the received communication data from either the internal RAM processing memory or the external memory, depending where it was stored earlier (col. 4, ll. 47-64).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Terajima's sensor into Utsunomiya and Kizaki's printer for the benefit of ensuring that the external memory is properly connected before data transferring increasing the data transferring integrity (Terajima, col. 5, ll. 3-9), and further more, also provide the benefit of reducing the cost of the printer as memory is saved (Terajima, col. 1, l. 52 to col. 2, l. 5) to obtain the invention as specified in claim 14. The resulting combination of the references further teaches the printer comprising:

the sensor (i.e. detection unit) utilized for detecting whether or not the external memory (i.e. expansion memory) has been mounted to said mounting unit;

the controller that,

when the sensor detect that the external memory is mounted, prints out the first copy from the primary memory device (i.e. semiconductor memory such as the work memory and the internal RAM) as the image data is stored in the primary memory device, and

stores the image data in the primary memory device into the secondary memory

device for implement the print out of the second and following copies from the

secondary memory device (i.e. external memory such as the external HDD); and

when the sensor detects that the external memory is not mounted, prints

out the second and following copies utilizing the image data stored in the primary

memory.

15.   As per claim 15, Utsunomiya, Kizaki and Terajima teach all the limitations of

claim 14 as discussed above, where Utsunomiya further teaches the data outputting

printer comprising at least one compression/decompression unit that compress image

data input from said processing area, decompress compressed image data and output

decompressed image data to said processing area (Utsunomiya, col. 2, ll. 8-67 and col.

7, ll. 22-32), since data are compressed before being stored, said data must also be

decompressed before being printed.

16.   As per claim 16, Utsunomiya, Kizaki and Terajima teach all the limitations of

claim 15 as discussed above, where Utsunomiya further teaches the data outputting

printer comprising wherein said expansion memory stores image data compressed by

said at least one compression/decompression unit (Utsunomiya, col. 2, ll. 8-67 and col.

7, ll. 22-32), wherein data are compressed before being stored.

17.   As per claim 17, <u>Utsunomiya</u>, <u>Kizaki</u> and <u>Terajima</u> teach all the limitations of

claim 8 as discussed above, where <u>Utsunomiya</u> further teaches the data outputting

printer comprising the processing memory is the first storage destination (<u>Utsunomiya</u> ,

Fig. 3, ref. 1032, 3007) and the expansion memory is the second storage destination

(<u>Utsunomiya</u> , Fig. 3, ref. 3012, 3013).

(10) Response to Argument

I. claims 1, 8, and 14

Issue I

        Appellant seems to argue (on page 5, last paragraph to page 8) that the

resulting combination of <u>Terajima</u> with <u>Utsunomiya</u> will not be successful,

because the appellant inferred that if <u>Utsunomiya</u>'s hard disk was not

provided/mounted, <u>Utsunomiya</u> cannot satisfactorily produce an output as the

printing of multiple copies would not be possible due to insufficient memory; as

<u>Utsunomiya</u> discloses an external memory 1043 is used when the buffer 1032

and/or storage area 3008 are full (column 6, lines 33-44), the external memory

1043 is used to store print data and various kinds of information of the printing

apparatus including font data, form data and data and control codes received

from the host, among other information (column 5, lines 5-14), the external

memory 1043 also often stores a program that is loaded into the RAM 1037 and

is executed by a CPU 1035 (column 5, lines 15-16), and to print multiple copies,

most of the print data is stored on the hard disk (3011, 3012).

Examiner's response to Issue

The examiner respectfully disagrees, because <u>Utsunomiya</u> does teach the proper printing of a plurality of copies (e.g. multiple copies) without the need of the hard disk (Figure 1, reference 1043, 3011, 3012), as the data is stored only in the input/output buffer (Figure 1, reference 1032) and rasterized image storage area (Figure 1, reference 3008) of RAM (Figure 1, reference 1037) (<u>Utsunomiya</u>, col. 6, ll. 20-32).

Additionally, <u>Utsunomiya</u> teaches the external memory (Figure 1, reference 1043) is used when the RAM (Figure 1, reference 1037) have become full (i.e. if the RAM is not full, the external memory is not used/needed) (col. 6, ll. 33-44), and <u>Utsunomiya</u> does not require the storing of font data, form data, data and control codes, and a program in the external memory for the printing of multiple copies.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the

Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Conferees:

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